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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/817,251	03/27/2001	Hisao Hiramatsu	Q63803	8044

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SUGHRUE, MION, ZINN, MACPEAK & SEAS, PLLC
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EXAMINER

SOOHOO, TONY GLEN

ART UNIT	PAPER NUMBER
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1723

DATE MAILED: 06/23/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/817,251

Applicant(s)

HIRAMATSU ET AL.

Examiner

Tony G. Soohoo

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 June 2005.
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7 and 11-21 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1-7 and 11-21 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 2-17-2005.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 6-13-2005 has been entered.

Pending claims are 1-7 and 11-21

Claim interpretation

2. Claims 19 and 21 point out the use of the method in an apparatus. It has been held that to be entitled to weight in method claims, the recited structure limitations therein must affect the method in a manipulative sense, and not to amount to the mere claiming of a use of a particular structure. *Ex parte Pfeiffer*, 1962 C.D. 408 (1961).

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claim 2 and 12 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential steps, such omission amounting to a gap between the steps. See MPEP § 2172.01. The omitted steps are: An introduction or suction of air into the operation. Since the claim to does not provide proper antecedent basis that

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there is air in the liquid, or air in the nozzle. It appears that a step collecting air has been omitted. Where did the method get the air so that the air may be discharged?

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1, 3-5, 7, 11, 13-15, and 17-21 are rejected under 35 U.S.C. 103(a) as obvious over JP 62-184357 in view of Knobel 5482863 (both previously cited).

The JP 62-184357 (JP '357) reference discloses as seen in figures 1 (i) through IV), as described in the supplied translation an automatic controlled repeated sucking and discharge of fluid on to the surface of the remaining liquid in a container to provide stirring. The translation states:

First, the liquid A is preliminarily present on the bottom of the container (4) in Figure 1 (i). The pipet (1), which has already suctioned the liquid B, becomes inserted into the container (4) in this state, and the liquid B is then extruded. The liquid A and liquid B therefore become mutually mixed, although a sufficient agitation state has yet to arise.

In Figure 1 (ii), the distal end of the pipet becomes lowered and then immersed underneath the liquid surface of the liquid mixture A + B. A certain volume (e.g., a half of total volume) is then suctioned.

Next, in Figure 1 (iii), the distal end of the pipet becomes elevated in a state where the liquid mixture remains suctioned and then positioned above the liquid surface of the liquid mixture stocked within the container. The liquid within the pipet becomes extruded in this state.

In Figure 1 (iv), furthermore, the state of Figure 1 (ii) becomes restored at the distal end of the pipet. In other words, the pipet distal end is lowered underneath the liquid surface in preparation for suction.

The pipet descension & suction and pipet ascension & extrusion actions discussed above are repeated within a single container.

F. Functions

The liquid within the container becomes sufficiently agitated physically as a result of the repetitions, via an interface provided by the liquid surface of the liquid within said container, of pipet descension & suction and pipet ascension & extrusion actions. The agitation is predicated on liquid countercurrents arising as a result of suction and on the collision of the extruded liquid with the liquid plane, etc.

The JP '357 reference discloses all of the recited subject matter as defined within the scope of the claims with the exception of the step of where the discharge position is positioned at a horizontally different position from the sucking position.

The reference to Knobel 5482863 (Knobel '863) teaches that it is desirable to discharge a liquid into a container at two different horizontal points thereby creating two vortex flows, column 3, lines 47-64, to enabling the solid phase to be suspended exclusively by injection of reagent, thus avoiding the need for a subsequent shaking operation.

12) The inventive process is suitable for other applications in addition to suspending particles deposited at diametrically opposite regions on the wall, relative to the central longitudinal axis. After a portion of the predetermined volume of reagent liquid has been pipetted into the reaction vessel in a first position, the pipetting needle can be rotated to any desired second position at a distance from the central longitudinal axis of the reaction vessel, where the deposited particles are suspended by adding the remaining part-volume of reagent liquid. In addition, a solution already in the reaction vessel can be efficiently mixed with other solutions.

(13) A main advantage of the present invention is that addition of reagent liquid at two different positions in a reaction vessel results in a flow therein, enabling the solid phase to be suspended exclusively by injection of reagent, thus avoiding the need for a subsequent shaking operation. In analytical equipment, the inventive device can produce an optimum suspension of particles during the addition of reagent, simply by choosing a suitable program for actuating the pipetting needle, so that a maximum number of samples can be

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processed per unit time.

And column 4 lines 32-40:

(20) FIG. 3 shows the pipetting needle 18 in a first position at a distance e from the central longitudinal axis 22, where a part of the predetermined volume of reagent liquid 21 is injected. The resulting vortex 24 is diagrammatically shown.

(21) FIG. 4 shows the pipetting needle 18 in the second position at a distance e from the central longitudinal axis 22, where the rest of the predetermined volume of reagent liquid 21 is injected. The resulting vortex 25 is diagrammatically indicated, showing the reverse direction of rotation.

Also, on column 4, lines 52-64, the reference teaches that the distance of the position whereby the pipet is moved for dispensing may be readily varied:

(25) The invention has been described in terms of its preferred embodiments. However, upon reading the present specification various alternative embodiments will become obvious to those skilled in the art. For example, travel distance (e) can be readily varied, as can the type of pipetting device, type of reaction container, processing station, etc.

In view of the teaching of the Knobel '863 reference that it is desirable to inject the fluid from the pipette from two different horizontal points thereby creating any solid phase to be suspended exclusively by injection of reagent, thus avoiding the need for a subsequent shaking operation, it is deemed that it would have been obvious to one of ordinary skill in the art to provide for the method taught by the JP '357 reference with an additional step of injection of the A+B material into the container with the additional step of injection of the material in to different longitudinal horizontal locations so that addition vortex flows are produced in the container in order to more effectively suspend any solid phase.

With regards to the material in which the method of stirring is worked upon, the claim is directed to a method for stirring a liquid. Object "for.. a liquid" deemed as an environment of the stirring method. Is It is noted that the manipulation of fluid as presented by the JP '357 in view of Knobel '863 is fully capable of acting upon any liquid including blood. Whereby the type of fluid used does not perfect or affect the stirring manipulation in a positive sense of fluid dynamics, little patentable distinction is afforded to the use of blood in perfection of the stirring. Nonetheless it is deemed that it would have been obvious to one of ordinary skill in the art to use the method of JP '357 as modified whereby the processing of blood by a pipette is old and well known.

With regards to differing positions of the sucking and dispensing positions whereby Knobel '863 reference discloses that the distances of the injection may be varied, it is deemed that it would have been obvious to one of ordinary skill in the art to modify the positions of suction and discharge positions so as to provide a more effective suction flow or vortex flow.

With regards to claims 19 and 21, the recitation of the use of the method in an inspection apparatus does not point out a positive manipulative step in the perfection of stirring a fluid thereby has been afforded little patentable distinction, the recited structure limitations therein must affect the method in a manipulative sense, and not to amount to the mere claiming of a use of a particular structure. Ex parte Pfeiffer, 1962 C.D. 408 (1961).

NPL FOR 09/817,251

PTO 05-2264

Japanese Patent
Document No. S62-184357

METHOD FOR AGITATING A LIQUID BY USING A PIPET
[Pipetto ni Yoru Ekitai no Kakuran Hoho]

Seiichiro Genmaki and Munechika Sakabe

UNITED STATES PATENT AND TRADEMARK OFFICE
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Foreign Language Title : Pipetto ni Yoru Ekitai no Kakuran
Hoho

English Title : METHOD FOR AGITATING A LIQUID BY
USING A PIPET

Specification

1. Title of the invention

METHOD FOR AGITATING A LIQUID BY USING A PIPET

2. Patent Claims

A method for agitating a liquid by using a pipet characterized, with regard to a method for agitating a liquid by using a pipet designed to be mounted on a manipulator and to automatically control the proportional suction & extrusion actions and spatial mobilization of a liquid, by the fact that a process whereby said pipet is lowered and whereby a liquid is suction in a state where the pipet distal end is being retained below the liquid surface and a process whereby said pipet is elevated and whereby said liquid is extruded in a state where the pipet distal end is being retained above the liquid surface are alternately repeated.

3. Detailed explanation of the invention

A. Industrial application fields

The present invention concerns a method for agitating a liquid by using a pipet designed to be automatically controlled by a manipulator. In particular, it concerns an agitation method used for an automatic clinical examination target inspection device that uses a manipulator.

B. Summary of the invention

The present invention mandates, with regard to a method for agitating a liquid by using a pipet wherein proportional suction & extrusion actions and mobilizations are automatically controlled by a manipulator, alternate repetitions of a process whereby a liquid is suctioned below

¹ Numbers in the margin indicate pagination in the foreign text.